

United States  
Department of  
Agriculture  
Forest  
Service

Pacific  
Northwest  
Region



# Monitoring and Evaluation Report

## Willamette National Forest

### Fiscal Year 2005



*Bull trout spawning in Olallie Creek on the Willamette National Forest  
Photographers Ray Rivera and Dave Bickford*

# MONITORING AND EVALUATION REPORT

This report focuses on the monitoring and evaluation process described in Chapter V of the Forest Plan. Though not all the questions posed in Chapter V of the Forest Plan is evident in this document, each question is addressed over the course of the year.

*If you have not received a copy of the 2005 Monitoring Report and would like a copy, it is available at [www.fs.fed.us/r6/willamette](http://www.fs.fed.us/r6/willamette) or if you would like us to send you a copy, please contact Judy McHugh (541-225-6305) or write: Willamette National Forest; 211 E. 7<sup>th</sup> Ave.; Eugene, OR 97401.*

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## Forest Supervisor

Welcome to the 2005 Willamette National Forest annual Monitoring and Evaluation report. This is our 15<sup>th</sup> year implementing the 1990 Willamette National Forest Plan, and this report is intended to give you an update on the services and products we provide. Our professionals monitor a wide variety of forest resources and have summarized their findings for your review.

My focus continues to be on streamlining our internal

processes and organization so that we can most efficiently and effectively produce products and services. My staff and I also continue to emphasize working with partners – these dedicated individuals, groups, agencies and organizations are integral to our success. I believe that restoring and maintaining the health of our ecosystems depends on our ability to work together to share ideas, costs and solutions.

I invite you to read this year's report and contact myself or my

staff with any questions, ideas, or concerns you may have. I appreciate your continued interest in the Willamette National Forest.

DALLAS J. EMCH  
Forest Supervisor  
Willamette  
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## Introduction and Background

The Land and Resource Management Plan (Forest Plan) for the Willamette National Forest was approved by the Regional Forester in July 1990. We began implementing the Forest Plan in September, 1990.

The Forest Plan designates areas for resource management emphasis based on the capabilities of these areas to provide differing levels of goods and services. The Plan also established Standards and Guidelines (S&Gs) that direct the management of these areas.

In April 1994 the Forest Plan was amended by what is referred to as the Northwest Forest Plan (NWFP). The amendment established additional management areas and S&Gs.

The Forest Plan also specifies monitoring and evaluation

requirements to provide information necessary to determine whether promises are being kept, and to assure assumptions made during the Forest Plan analysis are still valid. Monitoring coupled with evaluation provides a control system over management activities on the Forest.

Our monitoring is accomplished with three categories of monitoring:

**Implementation Monitoring** is used to determine "Did we do what we said we were going to do?"

**Effectiveness Monitoring** is used to determine "Are the management practices producing the desired results?"

**Validation Monitoring** is used to determine "Are the planning

assumptions valid, or are there better ways to meet Forest Plan goals and objectives?"

**Evaluation** is the analysis and interpretation of the information. Evaluation provides a feedback mechanism identifying whether there is a need to change how the Forest Plan is being implemented. The Monitoring Questions addressed throughout the year can be found at [www.fs.fed.us/r6/willamette/management/fpmr/2002/mon\\_questions.pdf](http://www.fs.fed.us/r6/willamette/management/fpmr/2002/mon_questions.pdf)

### Water quality

The Willamette National Forest conducted water quality monitoring at numerous stream and lake stations during 2005. Forest watershed personnel closely follow quality assurance protocols for data collection, storage and analysis so that we can be confident that the data is of the highest quality, accuracy and credibility.

#### *Stream temperatures*

On Detroit RD from June to September 2005, 18 sites were monitored for water temperature in accordance with Oregon Department of Environmental Quality (DEQ) protocol. Of the three streams listed by DEQ as "water quality impaired" for temperature levels (often referred to as 303(d) listed streams), data from only one site of these 303(d) listed streams showed temperatures in excess of established water quality standards. As in previous years, the warmest stream was Blowout Creek at the Road 10 Bridge with a maximum temperature of 19.7°C recorded on August 3, 2005. However, this reading was significantly lower than the previous year's reading of 21.2°C. The seven-day moving mean of daily maximum temperature of two other 303(d) listed streams, Boulder and Marion Creeks, were 16.7° and 15.6°C respectively. These temperatures are in compliance with DEQ temperature standards.

On the Sweet Home RD, 6 stream sites were monitored for temperature in the Quartzville Creek watershed. Results indicate that the temperature was not above the DEQ standard at any of these sites.

On McKenzie River RD, 34 sites were monitored for water temperature to assess compliance with DEQ water quality standards and to assess habitat conditions in streams that support Bull Trout. The station on Lower Mill Creek recorded the highest seven-day moving mean of daily maximum temperature at 20.0°C.



On Middle Fork RD, water temperature was monitored at 24 sites to assess compliance DEQ water quality standards. An additional seven temperature recorders were installed for the purpose of monitoring water temperatures in streams that support Bull Trout.

The majority of sites showed a reduction in the seven-day moving mean of daily maximum

water temperature. The maximum decrease recorded was 3.45°C on Salt Creek at the mouth (near the confluence of Salt Creek and Middle Fork of the Willamette River). Results for 13 of the stream stations showed water temperatures in excess of DEQ standards. For the sites where data from the previous year was available, 9 sites recorded a decrease (ranging from 0.30°C to 3.45°C) and 1 site recorded an increase (1.92°C) in water temperature. Results from the 7 bull trout monitoring sites are not available for this report.

#### *Additional Monitoring Activities*

In cooperation with the USGS and the City of Salem, the Detroit RD monitored turbidity at two construction sites where open bottomed arches were installed for fish passage. These sites were on Humbug and East Humbug Creeks. Grab samples were collected and analyzed for turbidity during high flow events. Erosion and sediment controls were in place and functioned well. Although localized increases in turbidity could be detected, increases in turbidity from the construction sites were not enough to be detected downstream in the Breitenbush River.

Turbidity was also measured on the South Fork Breitenbush River and the main-stem of the Breitenbush River. A maximum turbidity value of 43 NTUs was recorded for the South Fork

## Physical Resources

Breitenbush River on December 28, 2005, twice that of the main-stem Breitenbush River during a rain-on-snow event. The source of sediment producing this turbidity was inaccessible at that time and is still unknown.

A multi-parameter probe installed at a gaging station on Moose Creek located on the Sweet Home RD, intermittently recorded temperature, turbidity, depth, and conductivity data. Due to equipment failures, incomplete data is available from this site for 2005. Of the data that was collected, no abnormally high turbidity values were recorded.

In cooperation with the City of Salem, concentrations of nitrogen were monitored in 6 stream sites downstream of stands fertilized by aerial treatments under contract in the fall of 2005. Results showed no increases in nitrogen as a result of this project. Analysis reports from the City of Salem's Willow Lake Laboratory showed nitrogen levels under the 0.05 parts per million threshold in all samples.

On the McKenzie River RD, collections of vertical water quality profiles continued for temperature, turbidity, pH, dissolved oxygen, and conductivity. The collections were taken from 3 locations in Cougar Reservoir, from April through November for the US Army Corps of Engineers.

One monitoring location on Waldo Lake was monitored on 3 separate occasions during the summer season. Established protocols were followed which include insitu measurements and grab sample collection for laboratory analysis. Results were analyzed by Portland Statue University. Waldo Lake is retaining its outstanding water quality.

Precipitation samples were collected at one location adjacent to Waldo Lake on 6 separate occasions (one winter and 5 summer samples). Established protocols were followed which included Forest Service sample collection and handling and processing by the USGS. At this point in time the analysis of the samples remains unfunded.

Potentially toxic blue-green algae blooms were monitored by district personnel during the summer months in Hills Creek and Lookout Point Reservoirs. Monitoring included weekly reconnaissance and limited collection of samples for laboratory analysis. General health advisories for water contact recreation were issued for 3 different areas of Hills Creek Reservoir for periods of time between June and October. At Lookout Point Reservoir, a health advisory was issued for the Goodman Creek arm during the months of July through September and a separate advisory was issued for the area near the Hampton Boat Ramp

during the months of August and September.

In the North Santiam Basin including the Detroit RD six sites were monitored for several water quality parameters in conjunction with the U.S. Geological Survey (USGS) and the City of Salem. The USGS is now in the final stages of publishing a report on stream sediments and turbidity monitored in the North Santiam Basin.

### Air quality

In 2004 and 2005, ten-year revisits were made to more than 100 air quality bio-monitoring plots across the Willamette National Forest on the Forest Inventory and Analysis grid. Monitoring encompassed all Forest wildernesses, including the Class I Wildernesses: Mt. Jefferson, Mt. Washington, Three Sisters, and Diamond Peak, for which air quality is stringently protected by the federal Clean Air Act. At each site, a survey was made of the presence and abundance of lichens and target species were collected for elemental analysis.

Nitrogen-containing compounds in precipitation and fine particulates are the pollutants that most threaten natural resources and ecosystems in the Pacific Northwest. They originate as gases: nitrogen oxides emitted by vehicle and industrial combustion of fossil fuels, and ammonia emitted by



## Physical Resources

animal husbandry and crop fertilizers. Unlike sulfur dioxide, a pollutant that has been successfully addressed since the 1970s by regulating industrial point sources, nitrogen-containing pollutants are tied to



Old man's beard (*Alectoria sarmentosa*), is a familiar sight on the Willamette National Forest providing important winter forage to mammals. It is highly sensitive to air pollution.

human population size.  
Atmospheric pollutants like



Lung lettuce (*Lobaria oregana*) an endemic, nitrogen fixing lichen of the Pacific Northwest is abundant in old growth forests of the Willamette National Forest where it provides nutritional winter forage for mammals, habitat for arthropods, and contributes fertilizing nitrogen to forest soils.

nitrogen and sulfur deposition causes acidification and eutrophication of terrestrial and aquatic ecosystems, which can have widespread adverse effects on biological diversity, soil productivity, plant growth, and water quality. Lichen sulfur content on the Willamette National Forest decreased by about 14% during the past ten

Differences in the nitrogen, sulfur and lead levels in lichens on the Willamette NF parallel regional increases in nitrogen deposition and regional decreases in emissions of sulfur and lead. Lichen survey data will show us whether sensitive species have as yet been adversely affected by enhanced nitrogen deposition.

Pollutant	1995 mean	2004 mean	% Difference	Significance of paired T-test
Nitrogen %	0.38	0.45	18.4	p <.0001
Sulfur %	0.044	0.038	-14.0	p <.0001
Lead µ/g	4.0	2.9	-27.0	p <.0001

nitrogen, sulfur, and lead can accumulate in the environment as they are washed from the air in precipitation or dry deposited as fine particulates. High

years, but nitrogen content increased by about 18% (see table below), about the same as the increase in the population of Oregon during this time. Trend

analyses of regional IMPROVE (fine particulate chemistry) and NADP (precipitation chemistry) data are also showing increases in nitrogen deposition whereas sulfur is largely unchanged or decreasing. Lead levels in vegetation declined by 27%, another success story enabled by the prohibition of leaded fuels.

In 2006 we plan to analyze the samples collected in summer 2005 and finish identifications for the lichen surveys from 2004 and 2005. When identifications are complete, we will be able to find out if the increase in nitrogen accumulation in lichens has yet had any harmful effects on sensitive endemic and ecologically important species like old man's beard (*Alectoria sarmentosa*) or Oregon lung lichen (*Lobaria oregana*).

In the course of maintaining air quality the Forest also monitors smoke levels. In FY2005 there were no deviations from the Oregon State Smoke Management daily forecast nor did intrusions occur in designated or smoke-sensitive areas in 2005. The Forest also monitors Class I Wilderness air quality impairments. There were no reported or measured impairments of visibility standards in Class I areas on the Willamette National Forest in fiscal year 2005. Measurements were based on visibility monitoring by fixed detection sites on the Forest.

## Physical Resources

### Fire & Fuels

The Forest completed 887 acres of fuel treatment or 71% of the 1251 acres of fuel treatment predicted in the Forest Plan for 2005. These acres were treated as a direct result of management activities on the forest. For 2005, acres treated were lower than planned. This was due to the unusually wet spring condition on the forest due to above normal rainfall March thru June. With an increasing harvest level, the future outlook is for a continuing upward trend in fuels activities on the Forest.

The Forest is now starting to treat hazardous fuels not created as the result of management but would otherwise increase fire danger. These acres are separated into acres near communities, also called "wildland urban interface (WUI), or acres outside these populated areas. The Forest treated 8 acres inside the WUI and 148 acres outside the WUI. This is well above the predicted amount of 2 acres and 20 acres respectively

A total of 26 acres burned as a result of wildfires in 2005 compared to 25,008 acres burned in 2003. This is an example of variable fire seasons can be year to year, decade to decade. Nine of these fires were in wilderness but only total 6 acres.

The Forest also accomplished a fuel reduction in forested areas around urban development (WUI areas) and areas in the most need

for treatment (areas in Fire Regime 3) as a secondary result of activities. Secondary results occur when activities are implemented primarily for other purposes such as precommercial thinning and timber sale contracts. In 2005, the Willamette accomplished 13,527 acres of secondary fuels reductions in WUI and FP3 areas.

### Soils and Mass Movement

A positive trend continues in minimizing and controlling mass movement. Monitoring found no change from the results reported in FY 2003. Of the 20 sites monitored in 2005 only 7 were moving, the others were stable. Of those moving, only "Boundary" on road 1133 at milepost 14 was not attaining success towards desired conditions.

Current management practices using the Standards and Guidelines for Water Quality (including Best Management Practices) have generally been effective as follows:

Current practices for road location, design and construction are effective. Temporary Road locations are placed to avoid or minimize potential erosion / mass movement sites and are obliterated and/or hydrologically stabilized upon completion of activities. When possible, roads use non-geometric horizontal and vertical alignments that

result in smaller cuts and fills.

Current practices for road reconstruction are effective in eliminating, reducing or mitigating existing mass movements. Rd 1927 reconstruction on the Middle Fork Ranger District is a good example for using Timber Sale funds to accomplish much-needed rehabilitation to the ditch and culvert system. This work is crucial to ensuring roadway and soil stability over the long run.

Current practices for site-specific slope stabilization and post-stabilization mitigation have been effective. In general, the balance of stabilization techniques and cost effectiveness has been good.

Maintenance practices have been effective where applied with one exception: ditch cleaning. FY 2005 saw a big shift toward contract maintenance through use of IDIQ contracts. The positive side of the use of these contracts is that there were multiple contractors working a broader area. The negative side (that became apparent during the storms in early FY 2006) is that the contract language under the Performance Work Statements for culverts and drainage ditches does not adequately address the desired ditch dimension. The Performance Work Statement for Acceptable Quality Level is "Culverts and drainage ditches shall be free flowing". What was observed during the storms

## *Physical Resources*

of early FY 2006 on roads that had been maintained during the summer of FY 2005 was that the catch basins were clean and free flowing, but the ditch dimensions were inadequate to carry the quantity of water that resulted from the storms. Technically, they met the performance statement (free flowing), but what would be more effective would be the addition of language that defines dimensions. Also, an emerging issue is the eventual

incompatibility of the desire for vegetated ditchlines and loss of ditch depth and, therefore, hydraulic capacity. A potential solution for this is recognition that on some time cycle, there is a need to re-establish adequate dimensions.

Decomissioning projects have been effective. Frequent dispersal of water from the roadway through a variety of techniques has reduced or eliminated gullying and erosion.

In removal of stream crossing structures, it was apparent that removal of fill material to bankfull width or slightly beyond was effective in reducing sediment input during normal flows.

The large earthflows that were monitored in 2005 continued to move, but at a decreased level compared to the previous year. No management activities have occurred on these landforms for a number of years.



## Biological Resources

### Fish

The Forest Plan calls for monitoring fish populations and fish habitat of key species and threatened species.

#### Spring Chinook Salmon

##### *Middle Fork Willamette River:*

Population trends for Chinook smolts appear to be stable and at adequate numbers. In the Middle Fork Willamette River salmon are released in areas that were unlikely occupied historically and the fish do very well. The Paddy's Valley area was probably not occupied by salmon historically. Today, several hundred adults are released in the area and it is a strong producer of salmon fry that redistribute throughout the entire river. Studies showed that many adult salmon in the North Fork of the Willamette die before they spawn. ODFW, U.S. Army Corps of Engineers and the Forest Service are currently working on methods of holding and transportation that will increase the survival rate of adult salmon in the future.

*McKenzie River:* McKenzie Sub-basin dams remain the most significant influence on the landscape by fragmenting habitat, modifying flow and temperature regimes, and impeding migration of downstream migrant offspring of adults transported above those projects. Project objectives of the Cougar Temperature Control Project in the South Fork

McKenzie River were to improve salmon (and bull trout) production downstream of Cougar Dam. There are also anticipated benefits of favorable smolt passage through Cougar Dam. Trapping of downstream migrants below Cougar Dam since re-introduction of adults above found favorable survival rates (82-93% through turbines and 68-82% through regulating outlet) and the channel upstream of Cougar Dam is now viewed as habitat with immediate potential to contribute to natural

historic habitat since inception of that program. Potential to increase salmon production above Cougar Dam is recognized among the McKenzie Watershed Council, and has been given top priority following the McKenzie Sub-basin Assessment and Ecosystem Diagnosis and Treatment conducted by the Council.

The USFS is planning a fourth channel restoration project in the South Fork McKenzie River and Roaring River to address

Releases of hatchery origin spring chinook salmon into the McKenzie Subbasin; 1993-Present.

#### McKenzie Subbasin Adult Spring Chinook Transport

Year	Above Cougar Reservoir	Above Trail Bridge Reservoir	Mohawk River
1993	55		
1994	0		
1995	0		
1996	291		
1997	1,038	63	
1998	318	53	156
1999	549	40	204
2000	1,506	42	315
2001	2,055	61	0
2002	4,242	99	197
2003	2,981	141	0
2004	3,430	122	137
2005	923	111	34

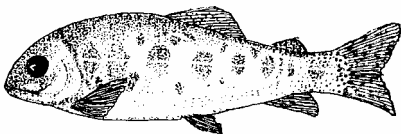
production in the Willamette Basin (Taylor, 2000). The table below summarizes adult salmon transport above dams and to

restoration of spring chinook spawning and rearing habitat needs. Following completion of restoration actions, the project

## Biological Resources

will conduct effectiveness monitoring of project goals through habitat and large wood surveys, which will be of help in answering the question of land management effects on smolt:adult proportion. ODFW and ACOE will monitor spring Chinook salmon production above and below Cougar Dam in 2006 and future years, and that data will be useful in answering the same question.

*Santiam River:* There has been no monitoring taking place in the Little North Santiam River, the South Santiam River or the Calapooia River that would indicate whether smolt numbers are increasing, decreasing or are stable. There is an indication that winter steelhead smolt numbers in the South Santiam River may be increasing based on the increasing numbers of adults returning to the South Santiam River the last three years.



### Oregon Chub

Chub habitat areas on the National Forest are being maintained. The Oregon Department of Fish and Wildlife (ODFW) is the primary agency monitoring Oregon Chub, and the Willamette National Forest works cooperatively to monitor populations on the Forest. There

are several populations on the Willamette National Forest. Of those populations, four sites currently meet down-listing criteria of greater than 500 fish with a stable or increasing trend of abundance for at least 5 years.

Concerns about the recent decline in the Oakridge Slough population have led to the planning of habitat restoration efforts. In 2004 a project to raise the water level and maintain inundation of aquatic vegetation longer to increase reproductive success and adult survival was planned. However, that project is on hold until the area can be further evaluated.

### Bull Trout

#### *Middle Fork Willamette River:*

In 2005 we observed at least 14 adult bull trout returning to spawning areas of the Middle Fork Willamette. These are the first verified adults to return in at least 15 years. The population is increasing and is expected to maintain that trend for the next several years as new age classes begin to mature.

Bull trout habitat on the Middle Fork Willamette River is improving each year with numerous habitat enhancement projects. In the last few years the District has completed several instream restoration projects to increase spawning habitat in areas used by bull trout. In 2005 over 200 logs were placed at eight sites frequented by bull trout. In 2006 we are preparing to place another

600 logs to create or enhance several more miles of habitat. Work is also being completed to replace an impassable culvert at Indigo Springs. By replacing this culvert, bull trout will regain access to prime spawning habitat in the upper Indigo Springs area.

In 2005 we monitored all previous projects and have determined that bull trout are present in all release areas and all age classes are present in the Middle Fork Willamette River and Hills Creek Reservoir. Bull trout are using the habitat we have constructed and enhanced. Monitoring techniques included night snorkel surveys, various trapping projects and angling. Larger bull trout are now implanted with a recorded tag so biologists can determine seasonal migration patterns and location of spawning. The Forest Service works in conjunction with ODFW on nearly all bull trout and salmon related research projects.

*McKenzie River:* Since a peak count during Fall 2000, the total McKenzie River population redd count has declined an average of about 9% per year between 2000 and 2005. A reduction in number of redds in the McKenzie River population, apparent loss of larger sized bull trout from the population, and reduced rate of fry production in Anderson Creek suggests adult bull trout are being harvested from the population. The apparent decline in McKenzie River adult bull trout coincides

## Biological Resources

with improving anadromous returns (spring chinook and steelhead) to the McKenzie River and reinstated harvest of spring chinook salmon.

The South Fork McKenzie River population of bull trout appears stable or slightly improved. The upper McKenzie River population appears stable. Based on redd survey results, the Trail Bridge population appears to be increasing. Effort to reduce adult mortality in the South Fork McKenzie River has been effective through changes in fishing regulations. Cessation of a put-and-take rainbow trout fishery in 1996 by ODFW and switch to catch-and-release fly angling only in the South Fork McKenzie River has contributed to steady or increasing spawning production in Roaring River that is evident in redd survey results.

Recent declines in McKenzie River population bull trout are not attributable to modification or degradation of habitat critical to bull trout. Frequent spawning surveys, temperature monitoring and snorkel surveys provide continuous examination of habitat quality to surveyors, and changes in habitat quality have been in the direction of improved conditions.

According to surveys conducted by ODFW, habitat work by the USFS in Roaring River and the South Fork McKenzie above Homestead Campground (1996 and 1998) has increased bull trout rearing habitat. Sampling

with minnow traps and snorkeling found most juvenile bull trout living in backwater areas or quiet side channels. Juvenile bull trout are relatively abundant around wood placed in Roaring River. Wood placement to create quiet water habitats, especially in lower Roaring River and the South Fork McKenzie above Homestead are expected to continue to bolster the bull trout population. Currently spawning habitat in Roaring River and adult foraging habitat are believed limiting factors for bull trout in the South Fork McKenzie, due largely to habitat fragmentation and population isolation by Cougar Dam. Harvest of adult bull trout in the South Fork McKenzie River is believed to have been significantly reduced by cessation of fish stocking and changes in fishing regulation in 1996 (as reflected in increased redd counts in Roaring River).

Based on what was learned in Roaring River, the McKenzie Watershed Council, Oregon Water Enhancement Board, Eugene Water & Electric Board, ODFW and McKenzie River Ranger District implemented a bull trout habitat improvement project in the mainstem McKenzie River upstream of Trail Bridge Reservoir during summer 2005. The project restored large woody material to the river channel utilized by spawning and rearing bull trout by creating log complexes in an area that was salvaged following the 1964 flood. The McKenzie

River Ranger District conducted habitat improvement projects in cooperation with Eugene Water & Electric Board within Trail Bridge Reservoir. Brush bundles were placed near the margins and on the reservoir bottom to provide cover habitat for juvenile bull trout. The same partnership implemented a project downstream of Trail Bridge Dam that included improvement of rearing conditions in a man-made spawning channel utilized by bull trout juveniles.

Restoration of McKenzie River side channels (bull trout rearing and foraging habitat) is in the analysis stage and is slated for implementation during 2007. Bull trout migration routes and rearing and foraging habitat will be improved in a project in the planning phase in South Fork McKenzie River. Approximately 6.5 miles of upper South Fork McKenzie and Roaring Rivers will be enhanced through addition of large woody material and closure of vehicle access to dispersed recreation sites along Forest Road 19. Project implementation is planned for 2007.

*Santiam River:* Potential Bull Trout habitat in the North Santiam and South Santiam River Systems are being maintained.

### Recommendations

- Willamette National Forest effort directed at angler education, particularly in areas of anadromous angling

effort below Leaburg Dam, should focus on species identification; support creel census in anadromous angling reaches, and support enforcement presence. Where conservation funding sources are available, the Willamette National Forest should combine with partners in pursuit of funding for the purposes described above. Should conservation efforts fail to stem the decline of McKenzie River bull trout population, the Willamette National Forest should work with Oregon Department of Fish and Wildlife on potential regulatory actions to conserve bull trout such as:

- ODFW, U.S. Army Corps of Engineers and the Forest Service should continue working on methods of holding and transportation that will increase the survival rate of adult salmon in the future.
- Partner with the McKenzie Watershed Council to improve aquatic habitat. Potential to increase salmon production above Cougar Dam is recognized among the McKenzie Watershed Council, and has been given top priority following the McKenzie Sub-basin Assessment and Ecosystem Diagnosis and Treatment conducted by the Council.
- Restore aquatic habitat conditions in the South Fork McKenzie River and Roaring River to address restoration of spring chinook spawning and

rearing habitat needs. Following completion of restoration actions, conduct effectiveness monitoring of project goals through habitat and large wood surveys, which will be of help in answering the question of land management effects on smolt:adult proportion. Work with ODFW and ACOE to monitor spring Chinook salmon production above and below Cougar Dam in 2006 and future years.

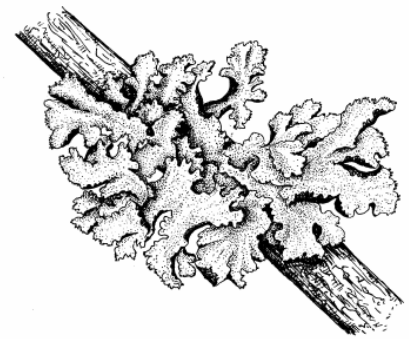
- Further evaluate Oakridge slough restoration projects to benefit Oregon Chub.
- Enhance aquatic habitat in the Middle Fork Willamette River. Replace the passage barrier at Indigo Springs so that bull trout can regain access to prime spawning habitat in the upper Indigo Springs area.
- Restore aquatic habitat in the McKenzie River, South Fork McKenzie River and Roaring River.

### Biological Diversity

Monitoring biological diversity in our monitoring report entails monitoring our old growth habitat, special wildlife and plant habitat and the seral stage distributions across the forest.

*Old growth* habitat is now protected under the Final Supplemental Environmental Impact Statement on the Management of Habitat for Late-Successional and Old-Growth

Forest Related Species Within the Range of the Northern *Spotted Owl*. Data was collected on the first ten years of implementation of the Northwest Forest Plan and is available on the web, [http://www.fs.fed.us/~pnw/publications/pnw\\_gtr648/~pnw-gtr648a.pdf](http://www.fs.fed.us/~pnw/publications/pnw_gtr648/~pnw-gtr648a.pdf). Status and trends of the Northern Spotted Owl populations from 1994-2003 shows declines of a weighted average of 3.4% annually. This decline is representative of the entire region of the Northern Spotted Owl. Possible causes of these



declines can be the barred owls, loss of habitat from wildfire or harvest, and / or poor weather conditions.

*Seral stage distributions* by plant associations are being monitored and mapped as a part of the Fire Regime Condition Class effort. The fire regime condition class (FRCC) is a classification of the amount of departure from the natural fire regime. A departure from the natural fire regime results from changes to one or more of the following ecological components: vegetation characteristics (species composition, structural stages, stand age, canopy closure, and

## Biological Resources

mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances (e.g. insect and diseased mortality, grazing, and drought) stratified by potential natural vegetation series. A deviation exceeding the threshold of variability will most likely also produce a flag showing a departure from the natural fire regime.

*Special habitats.* Over the last several years, more emphasis has been on restoration and active management of the habitats themselves, with or without direct impacts by timber harvest, road construction, and other ground-disturbing activities. Maintenance of biodiversity may require active intervention where natural succession under wildfire exclusion (and in some cases following grazing) is changing species composition and dominance.

More recent efforts have gone towards a landscape perspective on prioritizing special habitats for protection or restoration, and integration of wildlife habitat and native plant community objectives.

The newest threat to biological diversity on the Forest is aquatic invasive plants. Inventories by Stillwater Sciences for Eugene Water and Electric's hydroelectric power relicensing yielded some surprises in the Upper McKenzie Basin. One population of Eurasian water milfoil, *Myriophyllum*

*spicatum*, was located at Beaver Marsh and two populations of curly leaf pondweed, *Potamogeton crispus*, were located at Smith Reservoir. As a follow-up item, the Forest will pursue funding for additional surveys of alpine lakes that are used by fishermen in boats.

Many terrestrial restoration projects are aimed at maintaining meadow habitats for wildlife and botanical species, as well as providing traditionally used foodstuffs and basketry materials for Native American Tribal Members. On the Middle Fork District, oak habitats are being restored at Jim's Creek and Mutton Meadows via prescribed burning and seeding with native species. In high elevation sites such as Gordon Meadows, young encroaching trees are being cut and burned with the aid of cooperators such as Oregon Hunters Association. Larger trees are being harvested to encourage a forest/meadow mosaic at Buchgrass Meadow on McKenzie River District. On the Santiam River District habitat for both huckleberries and camas are being improved with the help of interested Tribal Members.

### Wildlife

The Forest provides diverse habitat supporting over 260 wildlife species. A select number of species, requiring a diverse degree of habitat needs, were chosen to be managed for their required habitat which in

turn assured other species' needs are met. These selected species were termed Management Indicator Species (MIS).



Pileated Woodpecker,  
*Dryocopus pileatus*

Two of these species are the Bald Eagle and Peregrine falcon. There are a total of 18 Bald Eagle nest sites on the Forest. All are protected in accordance with the Forest Plan requirements. Eight sites on the south end of the Forest have not been incorporated into Management Area 8 (Bald Eagle Management Area) but remain protected. Five nests across the Forest were active this year with 7 young successfully fledged.

Peregrine falcons are monitored each year under the post-delisting monitoring plan developed by the FWS. There are 7 select sites on the Forest which are part of the post-



## Biological Resources

delisting monitoring program. Twenty-six of the 27 sites were occupied this year, 19 with verified nesting, and 10 of the 19 sites produced 21 young. Habitat conditions are reported as adequate on all known sites which meets and exceeds the national delisting requirements.

With respect to survey and manage species, 105 acres for mollusks (Crater Lake tightcoil) were surveyed this year.

Primary cavity excavators, (PCEs) which rely on dead and decaying trees, and other management indicator species (MIS), have been the subject of a long-term study to understand if the snags that are provided persist on the landscape as planned. The goal is to determine if the snags are used and do the snags contribute towards maintaining viable populations of PCEs.

However, recent regional modeling efforts (DecAID) indicate historic snag and down wood levels are much higher than forest level objectives for most time periods. A multi-year project for monitoring created snags found the following:

- Of the 1200 snags, 82% were used by woodpeckers for foraging;
- Woodpeckers preferred dead created snags over living created snags for foraging;
- Woodpeckers preferred dead created snags equal to natural snags for nesting; and

- Mortality rate for created snags was lower than predicted.

Year 2005 is a reporting year for snag monitoring. The McKenzie River and Middle Fork Ranger District reported monitoring 109 snags with 10 showing PCE activity.

With respect to deer and elk populations, we are likely below management emphasis level goals in all high and moderate emphasis areas due to high road densities and decreased forage opportunities. We may be meeting goals in some low emphasis level areas. However, the data is inconclusive at this point. Based on hunter statistics and annual census counts by ODFW, population trends of both deer and elk are down forest-wide, especially blacktail deer. Elk populations may be holding steady in some basins. Causes for the decline in big game populations are likely due to a combination of factors. Some of those factors are lack of adequate forage and security cover (open road densities are still too high) on the forest. In addition, at the lower elevations, deer hair loss disease has caused decline in local populations.

### Plants

A primary purpose for monitoring in the botany program is the maintenance of viable levels of threatened, endangered, and sensitive plants. In 2005, with the signing of a

March 2004 decision on survey and manage species that merited sensitive status, were merged into our existing list increasing the number of species we analyze for projects to 72.

The District Botanists prioritized sensitive plant monitoring for the year, based on requirements in Conservation Strategies,

concerns for viability of populations and length of time since relocation. A total of 19 days were spent monitoring species forestwide. Efforts focused on finalizing a viable monitoring protocol for *Calamagrostis breweri* and monitoring *Ophioglossum* and *Botrychiums*, as populations can be quite variable from year to year.

Additional monitoring shows *Frasera umpquaensis* plant populations are stable, however, reproductive effort has been in decline.

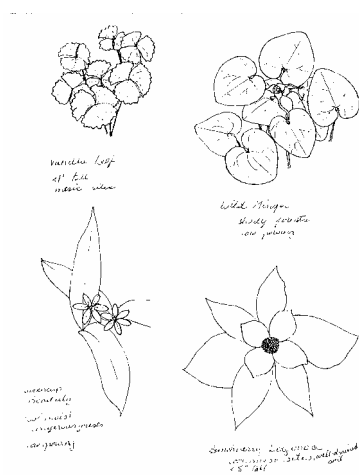
The Forest Species of Concern List, a list of species on the edge of their ranges here on the Willamette, have increased in size this year due to some helping from the Native Plant Society rare plant scouts.

The invasive weed program has become a big part of the botany program. Most of the weed work completed on the Forest was manual control (325 ac), although some mechanical mowing (60 ac), herbicides (281 ac), and prescribed fire (22 ac) contribute to the program. We

## Biological Resources

were able to competitively plant 16 acres after treatment. Botanists are also using alternative methods such as with hot foam (3 ac) where other methods are inappropriate.

The acres treated in 2005, though already higher than 2004, were bolstered with help from partnerships formed on the Forest using Title II funds. In partnership, the Forest accomplished an additional 842 acres of weed treatment.



The forest also monitors the reseedling of native species following soil disturbing projects. Sweet Home District has fully integrated natives into their program of work; several hundred pounds of blue wildrye and California brome were used to seed skid roads, landings and roadsides.

## Resources and Services to People

### Timber

In FY 2005 the Willamette NF offered a total of 46.2 MMBF through green timber sales, salvage sales, miscellaneous convertible products (post and poles and firewood) and add-on volume for awarded tree measurement sales. Accomplishment of timber volume sold for Fiscal Year 2005 was determined by volume offer (advertised). This accomplishment amounted to 103% of the FY 2005 assigned target.

The Forest also monitors felling techniques on slopes greater than 30%. Recent timber sales on the Willamette NF involve smaller, commercial thinning size trees. All of these sales have utilized FS-197 "Directional falling should be used where necessary to protect other resources values", to the extent necessary to ensure a variety of resource protection. Directional falling is a common design element and contract requirement where specific resource protection is identified.

### Silvicultural Practices

Growth responses from timber stand improvements (TSI) are consistent with expectations in the Forest Plan. Genetically improved stock is being used as planned and will maintain or exceed the growth of natural

seedlings.

Regeneration of harvest stands within the National Forest Management Act mandate of 5 calendar years from harvest is tracked every year to assure compliance. Of the 149 acres reported as being harvested using a stand regeneration harvest methods in FY 2000, 54 acres were on the Sweet Home Ranger District and 95 acres on the Detroit Ranger District. All of these timber stands represented by the 149 acres were certified as being satisfactorily stocked with established seedlings in FY 2005. The data source for this information is the Stand Tracking Database.

Timber Stand Improvement (TSI) accomplishments of thinning, release, and fertilization totaled 5,235 acres. Accomplishments are well below predicted in the plan. A significant backlog of plantations in need of thinning is building on the Forest.

*Insect & Disease:* Monitoring of insect and disease activity on the Forest is completed each year. In 2005 bear damage was common throughout the forest and was especially noted as high north of Detroit Lake, west of Lookout Point reservoir, and north of Cristy Flats. Fir engraver was noted west of Sweet Home and southwest of Springfield. Finally a light case of lodgepole needle cast was noted on Chucksney Mountain.

### Cultural Resources

The Forest cultural resource inventory reflects a resource base of over 2,250 recorded historic properties.

Monitoring changes are differentiated between "new significant condition change" and "cumulative effects" of on-going conditions. *Cumulative effects* are often (but not always) more subtle, with damages occurring incrementally over time; for example, erosion in the drawdown zone of the reservoirs or along road cutbanks, heavy recreation use on a site, weathering and lack of maintenance on historic buildings (i.e., benign neglect). *Significant condition change* often results from a single action or activity, such as construction or maintenance of roads, trails, campgrounds, etc., arson, treefall, vandalism, and looting. Whenever possible, mitigation measures (i.e., corrective actions) are taken directly upon identifying the recent significant impacts. If a perpetrator can be identified, that party is responsible to pay for rehabilitation to the property. Often the specific source of damage is not easily identified.

In FY 2005, there were no new ARPA violations or significant new impacts identified.

Several sites illustrate *cumulative impacts of on-going adverse conditions*. Lack of maintenance and weathering

## Resources and Services to People

continue to present problems for many historic structures. Field archaeologists reported that mitigation prescriptions had been successful at several sites visited, while most sites had no prior mitigation requirements. Additional protection or some form of new mitigation, including more monitoring, was recommended for other sites.

Maintenance, stabilization and repairs of historic buildings are generally implemented in accordance with historic preservation standards. Through Passport in Time projects, PayCo grants, and other volunteer efforts, as well as occasional appropriated dollars, improvements were pursued as several historic structures in FY 2005.

### Specially Designated Areas

“Specially designated areas” is a broad term that includes Wild&Scenic Rivers (W&SR), Research Natural Areas (RNAs), Old Growth Groves (OGGs), Special Interest Areas (SIAs), and Roadless Areas.

*RNAs:* One RNA (Torrey-Charlton) was visited in 2005 to monitor succession after a small fire resulting from a lightning strike on July 22, 1994 which hit the southern slope of Charlton Butte. It burned 2 acres before being suppressed with hand tools and helicopter water drops.

The Forest recommends installing a replicate of the plots used in the upland Torrey/Charlton fire monitoring study so that the lightning strike conditions can be compared to those created by the nearby burn.

*Wild & Scenic Rivers:* Wild & Scenic Rivers (WSR) are being protected in accordance with the Wild & Scenic River Act. The free flowing condition and outstanding remarkable values (ORVs) for which a river is designated or eligible for designation are considered for all proposed projects that are located within the Wild and Scenic River corridor. Project design criteria and/or mitigation measures are employed to either enhance or prevent management actions from unreasonably diminishing the river’s free flowing condition and its ORVs.

Monitoring as required by the Upper McKenzie WSR monitoring plan was conducted where financing was available. River use continues to grow and congestion at several boat launches continues to be a problem. A planning process for reconstruction of Frissell, Paradise, and Bruckart boat launches is currently underway. Evidence of increased loss of vegetation and soil at high use locations along the river corridor are evident. Other qualities of this river, including fish and wildlife habitat, dispersed recreation, trails, and mountain bike use are being protected.

ORV’s are being maintained on the North Fork of the Middle Fork of the Willamette River. One-half mile of the North Fork Trail was reconstructed. The effects of a proposed thinning in the Niner Timber Sale Environmental Assessment on ORVs will be analyzed and a decision made in fall 2006.

The Forest’s newest W&SR, Elkhorn, sometimes referred to as Opal Creek, does not yet have a management plan. When Opal Creek undergoes a suitability study, subject to funding availability, the status of Opal Creek, currently “wild” should be reassessed due to the current and historically high level of use by recreationists.

*Roadless Areas:* Both numbers and acres of unroaded areas and inventoried roadless areas are within the Forest Plan predictions.

*Fall Creek Special Interest Area-* We continue to find less trash, fewer homeless camps and improved vegetation regeneration. A considerable number of potentially hazardous trees exist in portions of this area as the result of the 2003 Clark fire.

*Oregon Cascades Recreation Area-* No new effects noted in OCRA during 2005.

*Constitution Grove* The site was monitored and no new effects were noted.

## Resources and Services to People

*Rigdon Ranch Special Interest Area* - Heritage sites were monitored and no change in status was found.

*Gold Lake Old-Growth Grove* This site was monitored and no change in status was noted.

*Johnny Creek Old-Growth Grove* This area was burned by the Clark Fire and no longer qualifies as old-growth. The associated nature trail and parking area, which is wheelchair accessible, remain relatively unaffected but all signing was destroyed and several bridges slightly damaged. The Recreation Site Facility Master Plan will address the future operation of the Johnny Creek Trailhead facility.

### Wilderness Areas

The Forest monitors the use levels within the wildernesses. Although specific use levels have never been established for each WRS, most areas of the Wildernesses managed by the McKenzie River Ranger District are at use levels below what would be considered to cause unacceptable resource impacts. However, some specific high use areas are still at or above use levels that place them outside of plan standards and are causing resource impacts.

Use numbers for the Obsidian Limited Entry Permit system in the Three Sisters Wilderness remain stable with some seasonal

fluctuations due to field conditions.

Review of Wilderness permits for the Mt Jefferson Wilderness indicates a leveling off in overall use with the possible exception of the Jefferson Park Area itself where use has continued to increase slightly.

Detroit District continues to monitor use within the Pamela Limited Use Area in the Mt. Jefferson Wilderness where there had been concerns about the use exceeding limits established for the assigned class setting. Resource conditions have improved markedly and numbers of encounters within the area are back within Forest Plan Standards.

The Marion Lake area, the Jefferson Park area, and the Eight Lakes Basin/Duffy Lake area are three other areas where the District continues to be concerned about levels of use and consistency with WRS class settings. The District continues to monitor resource effects in these areas and continues public education and information efforts in preparation for the implementation of additional control measures proposed by the Jefferson Wilderness Focus Group several years ago. The Marion Lake campfire ban continues to produce noticeable positive effects on user behaviors and shows some positive resource responses within the concentrated use areas adjacent to Marion Lake and Lake Ann.

Additional measures may be necessary.



## Resources and Services to People

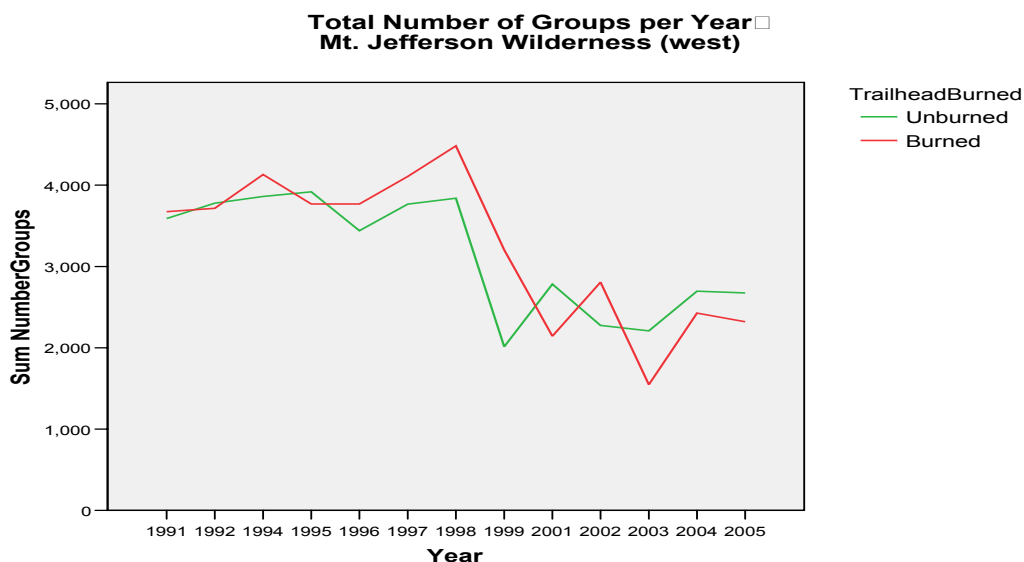
The B&B Complex fires, in the summer of 2003, had a significant effect on forest vegetation. Marion Lake, Eight Lakes and Basin/Duffy Lake areas of the Mount Jefferson Wilderness were some of the areas affected. Recreationists may tend to concentrate future use in the remaining unburned areas.

During the fire event, significant portions of the Mount Jefferson Wilderness were

monitoring of changes in use patterns within the burned area following the fires. Preliminary findings from these informal surveys indicated some level of displacement is going on as a result of the fire effects. Approximately 10% of visitors surveyed indicated they had been displaced from sites they would have preferred using prior to the fires. More formal and comprehensive monitoring was conducted during FY 2005, the results of which follow:

1990s. The small decrease in the Mt. Jefferson may well be a symptom of this trend. Use in the burned area of the Mt. Jefferson may not, however, be recovering as quickly to pre-fire use levels as in the unburned portions following the closure of the wilderness (see figure below). Effects from the fire on visitation will be more readily apparent through monitoring efforts into the future; at which time we may see displacement from the burned area.

*Number of permits issued for the Mt. Jefferson Wilderness in unburned and burned areas (adjusted for compliance).*



administratively closed to public use for safety reasons; however, we were not able to discern a noticeable increase in use levels elsewhere in the Mount Jefferson Wilderness due to these closures.

In FY 2004, Detroit District performed some informal

There is little evidence to suggest that the Mt. Jefferson Wilderness is experiencing an overall decline in visitation due to the B&B Fire. Several wilderness areas nearby are experiencing a similar downward trend in visitation since the mid-

Changes resulting from the fire within the study area are apparent, and include a decrease in the number of campsites located within the burn area following the fire. Because of this apparent change in camping distribution, several at-risk areas

## Resources and Services to People

were identified as prime targets for changes to sites within the camping area in the future. These sites include Mowich Lake, Santiam Lake, Craig Lake, Bowerman Lake, Jorn Lake, and the Duffy Lake/Duffy Prairie area.

Some changes in social conditions following the fire were indicated as well. Visitors reported a statistically significant ( $t=6.531$ ,  $df=117$ ,  $p<0.001$ ), yet small (0.9 points on a 9-point scale) decrease in satisfaction following the fire. Almost one-quarter (22%) of the visitors reported a decrease in visitation since the fire. Some of the reasons given for these reported changes in visitation were positive: “because we can see more. I’m amazed at the new and different flowers,” and “still want the wilderness experience that shows the nature of the area in all forms.” Some of these responses were negative: “because of the burn and overcrowded areas, fewer places to see and go” and “scorched earth not fun, we prefer lush green.” Many of these responses were rather neutral, relating that the fire did not affect their experience: “the fishing hasn’t changed” and “our meadow was unaffected.” Others related place-specific affection such as “I love this area.”

Use levels within the Middle Santiam and Menagerie Wilderness Areas are within the limits established for management plans for each WRS

class. Middle Santiam experiences about 1500 RVD’s and Menagerie about 5300 RVD’s per year.

In Diamond Peak, Waldo Lake and the southern portion of the Three Sisters Wildernesses, use is within the limits established in the management plans for each WRS class.

### Recreation

A broad spectrum of dispersed recreation opportunity settings are provided in response to projected public demand. It is essential that these settings are planned, maintained, and managed in a condition to satisfy this demand.

Settings for dispersed recreational use areas in the Santiam Pass area are being considered under the Santiam Pass Planning effort. An environmental analysis will evaluate alternatives for the protection of natural and cultural resources while providing an appropriate level of recreation opportunities and positive recreation experience for visitors accessing the area. Largely unmanaged dispersed day, overnight, and OHV use in the Santiam Pass area continues to increase each summer season. With increased use levels, value conflicts and depreciative behaviors also continue to increase.

Illegal dispersed use (homeless residing, dumping, abandoned

property, etc.) occurs in high concentrations on some areas of the McKenzie River Ranger District. These areas are generally in close proximity to the major public transportation and travel routes. This requires a great deal of FPO (Federal Protection Officer) and law enforcement presence to monitor these activities.

The Elk Lake area of the Detroit Ranger District occasionally exhibits use levels and party sizes or user activities that are inconsistent with the designated ROS setting. Since FY 2001, increased Forest Service presence has been used in the Elk Lake area to reduce or limit these inconsistencies. Use that is inconsistent with the ROS (Recreation Opportunity Spectrum) setting for Elk Lake still occurs occasionally, in spite of the increased presence. More presence and other types of controls are still needed. Barrier posts have been installed and generally proven to be effective to keep four-wheel drive vehicles to main access roads at Elk Lake and meet Standards and Guidelines for this management area. In FY 2005, more barrier posts were installed in an effort to restrict motorized access back to the 1930’s footprint of the main access road and the campground at the west end of the lake. The old pit toilets were replaced with new sealed vault toilets and a limited number of campsites will be designated with fire rings and identifying posts in FY 2006. During FY

## *Resources and Services to People*

2006, scoping will begin regarding a proposal to implement fees at the Elk Lake Campground. If the proposal goes forward, the funding from such fees will be used to increase presence. Temporary road repairs made in FY 2005 to allow the transportation of the new toilets to the campground seemed to result in increased camping use though no apparent increase in party size as had been witnessed in years past.

The Waldo Lake Management Plan which addressed management issues on the lake was withdrawn in 2001. A subsequent decision regarding use of motors on Waldo Lake, and the use of generators and chainsaws in the proximity of the lake is expected in 2006.

### **Trails**

In the course of the year the forest monitors trails and trail corridors to assure their maintenance and variety of uses related to public demand. Minimum levels of trail maintenance are being accomplished on the Forest. Mid level maintenance or reconstruction of short sections of trail still remain largely unfunded. Contributed funds (e.g., PAYCO) have allowed the Forest to leverage limited appropriated funds and complete a few minor backlog maintenance projects. Trail projects are prioritized for funding, using user safety and resource impacts as the main

criteria for project development.

A range of trail opportunities is offered, from hiker only nature trails, to winter motorized, to multiple users sharing trails. While an adequate system of trails continues to be provided to the visiting public, trail conditions have fallen slightly resulting in an increase in maintenance backlogs.

The forest continues to receive general complaints from snowmobilers of rutted snow covered roads caused by large 4x4 vehicles early in the winter months. The ruts make for difficult riding and handling of snowmobiles on snow covered roads and on designated snowmobile routes.

A decision will be made in 2006 whether to authorize Willamette Pass Ski Area to construct a challenge course for mountain bikers. The mountain biking public has requested opportunities for additional challenges, particularly linked to the existing opportunities on the Middle Fork Ranger District and around the communities of Westfir and Oakridge. Summer use of the gondola at the ski area has increased use on Maiden Peak Trail, resulting in erosion and soil displacement.

User conflict is an issue on popular multiple use trails, such as Waldo Lake and – in the winter – some snowmobile trails.

Forest Plan construction

schedules have changed since the development of the Plan. Trail construction and reconstruction is largely based on user safety and resource impacts. Funding for trail construction projects is scarce, and most of the proposed projects in the Forest Plan are on hold indefinitely.

Several trailbridges require replacement on the Fall Creek Trail are being completed in 2006. Funding has been secured to replace a trailbridge on the Warrior Trail, a popular multiple use trail for the community of Oakridge.

### **Developed Recreation**

Concessionaire-operated and Forest Service managed facilities meet or exceed standards and guides for cleanliness and health and safety.

Bedrock campground and nearby trails along Fall Creek were closed and seriously damaged during the 2003 Clark Fire. This campground is open for the 2005 camping season but water will not be available.

Vandalism is a growing problem in some developed sites causing the Forest to focus limited maintenance dollars to repair or replace facilities.

The Forest monitors our developed sites for the manner in which they are used. There is a growing conflict at Detroit Lake between overnight camping, day

## ***Resources and Services to People***

use, and boat launches. Also campsites were being used beyond their original design as seen with RV camping in campgrounds designed for tent and small trailer camping. Some sites within the South Santiam drainage are being used periodically by groups slightly larger than sites were designed for, resulting in congestion. Such congestion is generally short-lived and usually associated with holiday weekends. No significant resource damage is occurring as a result.

Recreation monitoring also determines if sites provided and distributed meet changing trends. A range of sites that address customer's preferences and use trends are provided across the Forest. At peak times of the use season (holidays and weekends) a few recreation sites (i.e., Big Lake, Big Lake West, Mona, and Lookout campgrounds) reach capacity and overuse may be perceived. Observations have been made that some overused and underused sites may be related to the charging of a fee. (For example: Homestead is a free campground that receives high use along the South Fork of the McKenzie River. However, eight fee campgrounds along the same stretch receive moderate to light use.)

There is a demand for snow-play areas. Plans are underway for additional areas, but funding is an issue. Increased use of dispersed areas will necessitate

some action to prevent increased resource degradation. Construction began on the new Salt Creek Snowplay area, funded primarily through Payco, as a result of customer demand. Construction is expected to be completed in 2006.

Reconstruction of a number of universally accessible developed amenities at Waldo Lake began in 2005 and are expected to be completed in 2006. Accessible boat docks, campsites and a trail system will be constructed.

In FY 2005, the Forest began a Recreation Site Facility Master Plan planning process. The intent of the process is to assess and better align the Forest's developed recreation program with current and project and visitor use. The process is expected to be completed in 2006.

### **Off Road Vehicle Use**

In general, ORV use is occurring in areas designated for such use. Dispersed ORV use occurs in an increasing amount in both summer and winter.

In an effort to minimize conflicts between user groups and maintain a safe environment for the public, the Forest needs to provide a wide range of opportunities for ORV users. Some conflict is occurring on roads which are open to ORV use. Without an established and well managed OHV (off-highway vehicle) trail system

conflicts with other users of the area can and do exist.

The forest will begin in FY 2006 the planning process for implementation of the new travel management (OHV) rule.

No special areas have been developed for ORV use on the Santiam River Zone (Detroit and Sweet Home RDs) as of yet. ORV opportunities consist of the secondary road system. ORV use is generally occurring on the secondary road system though there have been some occurrences of cross country travel in the Cedar Creek, Elk Lake, and Breitenbush Creek areas leading to degradation of soil, water, and vegetation resource damage.

The McKenzie River RD has only one area classified as an OHV area, Santiam Pass / Big Lake. Here the ORV use is concentrated to a dense, low maintenance level of dirt roads. The area is not particularly challenging and does not require a high level of skill. An Environmental Analysis is currently underway to determine the suitability of the area to support a wide range of skills and abilities.

Motorized intrusions into the Three Sisters Wilderness and Mount Washington Wilderness by snowmobiles continue to be of concern.

In addition, OHV use continues to increase on the mud flats at

## Resources and Services to People

Hills Creek Reservoir. There is continued potential for disturbance of turtle basking and nesting activities in the reservoir. Funding was secured in 2005 to develop a public use management plan for Hills Creek Reservoir. This partnership effort between the forest and the Corps of Engineers will propose mitigation measures to be taken to mitigate impacts to turtles and other resources. The plan will be completed in 2006.

Finally, one of the locations where ORV use does occur on the Detroit Ranger District is along the service roads for the power transmission lines that cross the District. Some of these locations are on steep slopes with erosion-prone soils, particularly in the Breitenbush river drainage. ORV use in some of these places has resulted in significant loss of vegetative cover and soil erosion. Work continues with PGE and Bonneville Power Administration to plan management actions that

eliminate or mitigate these site-specific problems from ORV use.

### Recreation Use

In response to the need for accurate recreation use data, the National Visitor Use Monitoring project was developed at the National level and is being implemented by all National Forests. This process provides a consistent methodology for scientifically credible, repeatable, reliable, and defensible set of recreation use data. Twenty-five percent of National Forests will



participate each year for the first four years. Once the cycle is completed the Forests will be resurveyed every five years. The Willamette National Forest

participated in this project in FY 2002. Until the resurvey is done, scheduled for 2007, a large scale trend cannot be quantitatively determined for this type of use.

All survey and current population trend reports indicate demand for dispersed recreation is on the increase. The Forest's ability to meet these demands and curtail resource and social impacts are diminishing. As budgets decrease and competing demands for limited funded resources increase, we are unable to keep pace with public demands.

### Scenic Resources

The effects of individual landscape alterations are within the scenic quality standards for each management area. The cumulative effects of all management activities that might physically alter the landscape is consistent with the VQO's in the Forest Plan.



### Transportation

Policy changes in the last several years have had a profound effect on how roads will be managed in the future. In the past, the primary purpose for road construction on the Willamette was to enable timber harvest. Most of these roads exist in areas where timber harvest is no longer the primary objective.

Based on surveys conducted on a sample of roads suitable for passenger cars and high clearance vehicles in the summer of 2001 and 2003, it is estimated that over 10% of the roads open to high clearance vehicles were blocked due to brush and other uncleared blockages. Because of the reduced budgets it is anticipated that increasing

#### STATUS OF THE FOREST'S TRANSPORTATION SYSTEM

##### Road Construction and Reconstruction

Miles of road constructed	0
Miles of road reconstructed	192

##### Miles of road removed

Miles of road decommissioned	0.0
Miles of temporary road closed	No longer reported

##### Road Suitability

Roads Suitable for Passenger Cars	569
Roads Suitable for High Clearance Vehicles	5,150
Closed Roads	828
Total Miles	6,547

##### Traffic volumes

Traffic volumes will be reported every five years. Determining traffic volumes on a 5 year cycle should be adequate for establishing road use trends on the forest. Last report was in 2002.

number of roads will fall into this category over time.

Due to more than 10 years of falling road maintenance budgets, the Forest has not had the means nor ability to maintain all of its passenger car roads up to standard. During September and October of 2005, based on future budget projections, current road condition, and future road use

patterns, the miles of road "suitable for passenger cars" have been reduced from 1,560 to 569 miles. This reflects actual conditions on the ground and is consistent with the trend of falling maintenance budgets. The 991 miles of road once maintained for "passenger cars" will now be maintained for "high clearance" vehicles.

## Social and Economic

The values of many of the Forest's outputs are determined by trends in public preferences, changes in timber availability, and understanding the community the Forest influences. By monitoring these parameters we can begin to answer the larger question "How are social and economic conditions changing over time and what are the consequences of that change? How are these changes distributed?"

### Social

Over the past 12 months, Oregon's payroll employment added 49,400, or 3%. This indicates Oregon's economy has grown at an annual rate of close to 3% for much of the past two years.

County	Population 16 yrs and over	% in Labor Force	Females 16 yrs and over	% in Labor Force
Lane	258,327	64.3	132,623	58.3
Linn	79,582	63.0	40,723	54.8
Marion	215,834	63.7	108,049	57.6

Employment Status in 2000 (source: USBC, 2000)

Even with job recovery, Oregon's unemployment rate remains above the national average and is likely to remain there for at least another year.

The National Visitors Use Monitoring conducted in 2002 showed that approximately 60% of the visitors to the Willamette are between 30 and 60 years of age and also comprises the bulk

of the workforce.

The Forest's abundant outdoor recreation opportunities contribute both to the quality of life for residents of nearby communities and to the economy by stimulating demand for local services, thereby creating jobs and income. There is a broad spectrum of outdoor activities available on the Willamette ranging from the relatively passive pursuits of sightseeing, and photography, to more active recreation activities such as backpacking, fishing, OHV use, and skiing. These opportunities provide a get-away for residents and non-residents alike and a basis for a growing tourist industry, especially in rural areas.

Gas prices are probably having the most immediate impact on families as they choose how far from home to vacation. The nearest Forest Service campground can provide an suitable choice.

Based on 2005, population estimates for incorporated cities in Oregon, upland community populations are holding steady for the first time in several years,

while urban and lowland rural communities near the I-5 corridor has a slight decline since last year but within the margin of error. Population increase, since 2000, in urban and lowland rural communities in Lane, Linn and Marion Counties was 4.1%, 3.9% and 6.1% respectively. The State population has grown by 6.1% in that same timeframe.

The following item represents the most significant changes in direction and policy for 2004:

On Nov. 2, 2005 – U.S. Department of Agriculture Forest Service today announced a new regulation for recreational motor vehicle use in national forests and grasslands which will forge a sustainable system of routes and areas designated for motorized use in the future.

The new travel management policy requires each national forest and grassland to identify and designate those roads, trails and areas that are open to motor vehicle use. The Forest will seek public input and coordinate with federal, state, county and other local governmental entities as well as tribal governments before any decision is made on a particular road, trail or area. Unplanned, user-created routes will be considered at the Forest level during the designation process. The degree of intensity of the issues associated with these changes has been high.

## Budget

Fiscal Year 2005 final expenditures displays:

- Funds appropriated by Congress for the management of National Forest lands, and
- Permanent and Trust Fund monies.

Funds appropriated by Congress are for specified purposes such as wildlife management, timber, or general administration. The Forest does not have the authority to spend money appropriated for one type of activity on some different activity. As a result, even if there is a surplus in one type of fund, that surplus cannot be used to make up a shortfall in another type of fund.

Permanent and trust funds are fees collected for specified forest projects such as timber sales, salvage sales, and road use. The funds are used for activities associated with these projects such as slash disposal, preparation and administration of salvage sales, reforestation, and road maintenance.

### FISCAL YEAR 2005 FINAL EXPENDITURES

Description	FY05
Facilities Capital Improvs & Mtce	5,788,248
Flood Activities	114,516
Forest Products	5,319,616
Grazing Management	1,742
Inventory and Monitoring Activities	270,139
Knutson/Vandenburg Funds <sup>1</sup>	3,467,563
Land Management Planning Activities	36,977
Land Ownership Management	944,224
Law Enforcement	
Minerals and Geology Mgt	168,884
PAYCO Projects	7,108,032
Recreation/Heritage/Wilderness Activities	1,295,263
Roads Capital Improvs & Mtce Activities	347,402
Senior Program	80,050
State and Private Forestry	79,380
Trails Capital Improvs & Mtce	560,884
Wildland Fire Management / Fuels Treatment <sup>2</sup>	9,251,323
Wildlife and Fisheries Habitat Mgt	888,406
<b>TOTAL</b>	<b>36,184,647</b>

<sup>1</sup> Knutson/Vandenburg Funds are funds used for post harvesting improvement activities. Primary beneficiaries of these funds are Reforestation, Recreation, Watershed, Wildlife, and Fisheries Management

<sup>2</sup> The expenditures presented include \$2,930,483 of non-reoccurring expenditures for wildfire suppression

### Forest Receipts

Fiscal Year 2005 Receipts \$18,187,225

Forest Plan estimated receipts are no longer calculated. It is quite clear the Forest's receipts are only a fraction of the Forest Plan estimate.

### Payments to States

Payments in FY05 \$40,146,103<sup>1</sup>

<sup>1</sup>Based on Title I, Title II, Title III funds identified in Secure Rural School and Community Self-Determination Act of 2000.

Forest Plan Est. Payments \$42,632,374

### County Breakdown

Clackamas	\$11,943
Douglas	\$1,244,816
Jefferson	\$3,197
Lane	\$24,796,035
Linn	\$11,280,086
Marion	\$2,810,026

## Implementation Monitoring

The Forest completes Implementation Monitoring at two scales. Each asks the same basic question. "Is the Forest implementing the Forest's standards and guidelines (S&Gs) as stated in the Forest Plan as amended by the Northwest Forest Plan?" Forest Plan implementation monitoring is conducted by the Forest Supervisor whereas the Regional Ecosystem Office (REO) conducts the Northwest Forest Plan monitoring trips. Each trip consists of a review of the environmental documents and then a review of the project on-the-ground.

### Forest Plan Implementation Monitoring

In the course of conducting Forest Plan monitoring the forest reviewed four projects,

- *Twister Timber Sale* at McKenzie River RD
- *Kinkoe Timber Sale* at Detroit RD,
- *Cougar Rock Special Interest Area* at Sweet Home RD, and finally
- *No Forest level monitoring in 2005* at the Middle Fork RD. See NWFP monitoring for Middle Fork.

*Twister Timber Sale* This project was spawned from the Robinson Scott Record of Decision completed several years ago. Four units were visited that day.

The project entailed ground based yarding and full suspension yarding on other

units. The monitoring team agreed the project was well executed and met all resource objectives. The concern most discussed was that changes needed from planning to implementation could have been better documented

*Kinkoe Timber Sale* was visited by our Forest Geologist and a timber sale officer. The objective of the field review was to evaluate the ground-based portion of the timber sale in regards to soil disturbance and compaction. Two units were visited. Unit 22 included subsoiling of the primary skid roads, haul roads and landings, in the area with ground based harvest. Soil compaction ranged from 8 to 11% of the unit. Well below the 20% limit required in the Forest Plan. This total will become less when temporary roads are obliterated.

In Unit 32 about 11 acres were heavily compacted, or about 7%, prior to mitigation. All spur roads and landings were subsequently completely subsoiled after harvest. The subsoiling removed about 4 to 5% of the compaction leaving only 2 to 3% of the unit compacted. Forest Plan S&Gs were met with respect to soil disturbance.

*Cougar Rock Special Interest Area(SIA)*: The specific project was a precommercial thinning, though not a significant ground disturbing action, several aspects

of this project were reviewed.

The District completed the SIA guide as required by the Forest Plan. The precommercial thinning and bough cutting in the project were determined to be consistent with a SIA management allocation.

The SIA also falls within the boundary of the Adaptive Management Area (AMA). The monitoring team suggested that the District should provide more information on the SIA plans and activities to the AMA group where opportunities for funding studies pertinent to the SIA may be gained

Tribal consultation and coordination between the Siletz and Grand Rhonde occurred in an integrated fashion from the inception of the project. The District did a good job balancing and improving vegetation but not increasing non-traditional personal use. The monitoring team suggested more monitoring to find out who was using the area.

Consistency with SIA Guide and Management Objectives was reviewed in detailed and no deviations from the guide's recommendations was noted.

# Northwest Forest Plan Monitoring

## NWFP Monitoring

No new roads were built and no roads were decommissioned in key watersheds in 2005.

The 2005 Province Implementation Monitoring focused on prescribed burn and recreation projects. One project selected was the Windfall project located on the Forest. The other project was located on the Siuslaw NF and those results are not provided here.

The Windfall project was a timber sale on the Middle Fork Ranger District, Willamette National Forest, and the prescribed burning aspect of the project was reviewed by the team. The prescribed burn entailed underburning green tree retention (GTR) units within a sale unit for the purpose of restoring natural fire processes and reducing smaller fuels within the GTRs. The

### 10 Year Report for the Northwest Forest Plan

The Regional Interagency Executive Committee directs the implementation and management of the Northwest Forest Plan and has authorized a regional interagency monitoring team to evaluate the success of the Plan over the last 10 years. A collection of reports are available at [www.reo.gov](http://www.reo.gov).

## ROAD SYSTEM CHANGES WITHIN KEY WATERSHEDS SINCE 1995

Key Watershed	Miles of road built	Miles of road decommissioned	Current net change
Little North Santiam	0.00	0.30	-0.30
Upper North Santiam	0.41	4.80	-4.39
Upper McKenzie	1.12	11.21	-10.09
South Fork McKenzie	0.00	20.22	-20.22
NF MF Willamette	1.70	12.00	-10.30
Horse Creek	0.00	0.00	0.00
"Chub" Watersheds	0.00	0.00	0.00

objective was reducing the risk of loss of GTRs to a wildfire. This review looked only at the underburn prescribed in the green tree retention unit (GTR) in Unit 3 of the Windfall Timber Sale. The underburn was conducted in 2002.

Before a project is evaluated a questionnaire is completed by the District covering all aspects of the portion of the project under review. One question for the Windfall Project relating to completion

of appropriate environmental analyses resulted in a "Not Met" response. The biological effects of not meeting this S&G were deemed inconsequential. The remainder of the questions for both projects was answered as "Met". There were no questions for which there was disagreement on the proposed answers, nor were there any disagreements over interpretation of any of the applicable S&Gs.

This collection of reports on the 10-year anniversary of the Northwest Forest Plan is the first comprehensive analysis and interpretation of monitoring data since the 1994 Record of Decision. These reports attempt to answer questions about the effectiveness of the Plan from new monitoring and research results. The set includes a series of status and trends

reports, a synthesis of all regional monitoring and research results, a report on interagency information management and a summary.

<sup>1</sup> The Regional Interagency Executive Committee (RIEC) serves as the senior regional entity to assure the prompt, coordinated, and successful implementation of the Northwest Forest Plan (NWFP) at the regional level. The RIEC serves as the principle conduit for communications between the region and national entities.



# Accomplishments

The following table compares the actual accomplishment of selected Forest Plan objectives during the fiscal year 2005 (FY 205), October 2004 through September 2005) with the predictions in the Forest Plan (Chapter IV, pages IV-10 to IV-12). Also shown are the cumulative outputs and accomplishments since the Plan as implemented. The cumulative results are expressed as average annual. This provides the closest comparison to the Forest Plan

averages, which are based on a 10-year planning period.

Outputs vary annually for many reasons including year-to-year scheduling decisions, market conditions, budget appropriations, and weather conditions. Thus, a comparison of a single year does not provide enough information for an adequate evaluation.

The Northwest Forest Plan was the basis for significant

modifications to land allocations and to Standards and Guidelines. With these changes coupled with declining budgets, notable differences between Forest Plan projections and subsequent accomplishments are evident. The following table (Summary of Program Accomplishments) reflects adjustments to the Forest Plan projections for timber related activities; however, no other projections were altered.

## SUMMARY OF PROGRAM ACCOMPLISHMENTS

Summary of Program Accomplishments						
Output or Activity	Units	Projected Forest Plan Level	FY 2005 Accomplishment		Cumulative Avg. Accomplishment	
		Units	Units	%	Units	%
<u>RECREATION AND WILDERNESS</u>			Projected recreation estimates made in the Forest Plan no longer apply. Methods and units for measuring recreation use have changed substantially. The units reported represent 2004. Next reporting year 2009.			
National Forest Visits	Visits	--	1,575,000.0			
Site Visits	Visits	--	2,201,000.0			
Wilderness Recreation Use	Visits	--	50,500.0			
Trail Construction/Reconstruction	Miles	78.0	3.0	4%	9.0	12%
Developed Recreation Construction	PAOT	327.0	0.0	0%	51.8	16%
Developed Recreation Reconstruction	PAOT	844.0	0.0	0%	237.6	28%
<u>TIMBER MANAGEMENT</u>						
Timber Sale Program	MMBF	136.0	46.2	39%	69.3	51%
Timber Harvest Treatments						
<i>Regeneration Harvest</i>	Acres	3,144.0	118.0	4%	791.2	25%
<i>Commercial Thins</i>	Acres	2,808.0	2,865.0	60%	1,496.8	53%
<i>Other</i>	Acres	---	59.0			
Timber Stand Improvement	Acres	18,100.0	5,235.0	40%	10,926.6	60%
Reforestation	Acres	3,144.0	638.0	23%	2,717.3	86%
Fuel (Slash) Treatment	Acres	3,144.0	887.0	31%	1,746.7	56%
<u>ROAD MANAGEMENT</u>						
Road Construction	Miles	40.0	.0	0%	2.7	7%
Road Reconstruction	Miles	174.0	192.0	110%	98.0	56%
Roads Closed	Miles	890.0	776.0	87%	702.7	79%
Roads Suitable for Passenger Car	Miles	1,580.0	577.0	37%	1,412.7	89%
Roads Suitable for High Clearance Vehicles	Miles	4,530.0	5,192.0	115%	3,900.1	86%
<u>FISH / WATER / WILDLIFE / LIVESTOCK</u>						
Watershed Improvement	Acres	533.0	32.0	6%	402.1	75%
Anadromous/Inland Fish Habitat Improvements	Miles	12.0	16.0	0%	6.1	--
Wildlife Habitat Improvements	Structures	451.0	582.0	129%	470.3	104%
Livestock Grazing (AUMs)	AUMs	200.0	0	0%	70	35%

## Evaluation and Recommended

This section of the monitoring report was traditionally reserved for Recommended Action items applied to the Forest Plan. Recommended Actions items are developed as a result of our monitoring efforts over the year. This section proved to be invaluable source for progress during the first several years of plan implementation. Recommended Action items resulted in the correction, where needed, of estimates in the Forest Plan, changes to management practices as needed to comply with the Forest Plan, clarifications to the Forest Plan, and many other adjustments including amendments to the Forest Plan.

The Forest has been implementing the Forest Plan since 1990. The Forest personnel routinely apply all standards and guidelines (S&Gs). In review of this Monitoring Report, we did not note areas that needed attention that could be accomplished with a Recommended Action item. This is not to say improvements to the Forest Plan are no longer needed. Many changes are needed, but primarily due to the Plan's age, this would result in recommendations that cannot be completed within a year or two (the expected timeline for results from Recommended Action items).

The Forest IDT agreed that a better use of limited resources is to focus on Forest Plan revision, scheduled to begin in FY2011. Items that will be our focus will include:

- Develop a scientifically credible process to determine a Natural Range of Variation by plant association.
- Review all resource databases developed for flora, fauna, terrestrial ecosystems, vegetation, field sampled plots, forest infrastructure, and recreation information.
- Conduct a retrospective evaluation of all past Monitoring Reports to identify trends developed in resource areas that will need attention in the Forest Plan revision. Past reports will also highlight issues best addressed with a holistic view of long-range forestwide plan

The Forest will continue to monitor and identify areas that can be improved without the need for a Plan revision.

## Follow up on Recommended Actions

In the previous year Monitoring and Evaluation Report, the following actions were recommended as progress towards a Forest Plan Revision. Below is a status report on these recommended

### Databases

Review all resource databases developed for flora, fauna, terrestrial ecosystems, vegetation, field sampled plots, forest infrastructure, and recreation information.

This work was scheduled to begin in 2005. All databases

were reviewed in light of the Forest Plan Revision. A report and action plan was generated. Work will continue as the data gaps are discovered filled.

Recommendations include updating key data items in the Forest's vegetation database, emphasize the collecting of biological survey data and entering the data into the our National database. This data will be essential to Forest Plan Revision.

### Natural Range of Variation

Develop a scientifically credible process to determine a Natural Range of Variation by plant association.

The 2004 Planning Rule will require a rigorous analysis of ecological conditions in relation to the range of natural variability. In a response to this need, a workshop on Range of Natural Variability was held in January 2005. The conference featured speakers on a wide range of topics including national fire management policy

## *Follow up on Recommended Actions*

regional fire ecology, meadow restoration, landscape and project level planning, implementation issues and solutions. The Willamette will be exploring the early seral portion of the historical range of variability in the winter of 2007.

### **Monitoring Plan Study**

Conduct a retrospective evaluation of all past Monitoring Reports to identify trends developed in resource areas that will need attention in the Forest Plan revision.

Forest Plan Revision has been rescheduled for 2011. This monitoring study is designed to

inform Forest Plan Revision team of needed changes to the current Forest Plan. A study like this is best completed approximately 1 year before revision and so has been reschedule to 1 to 2 years before Forest Plan Revision.

## Forest Plan Amendments

Your Forest Plan is a dynamic document that can be amended in response to:

- Errors and/or discrepancies found during implementation.
- New information.
- Changes in physical conditions.
- New laws, regulations, or policy that affect National Forest management.

We frequently learn about the need for amendments through monitoring.

Since first published in the summer of 1990, there have been 43 nonsignificant amendments to the Willamette National Forest Plan. In addition, during 1994 the Northwest Forest Plan was completed and amended all Forest Plans in the range of the Northern Spotted Owl including this Forest. Because all Forest Plans were amended at the Regional level, the amendment did not receive a number.

The following summarizes the amendments to the Forest Plan:

Amendment	Implementation Date	Type of Change
1	10/30/1990	Vacates Regional Guide for spotted owls.
2	12/10/1990	Allows snowmobile use in certain parts of Santiam Pass area.
3	08/05/1991	Corrects errors and omissions in Forest Plan (errata).
4	08/05/1991	Requires roadside brush management methods be consistent with scenic resource needs and allows machine mowing.
5	08/05/1991	Corrects mapping error in boundary of Diamond Peak Wilderness.
6	08/05/1991	Changes and clarifies direction about retention of downed wood to better meet functional and operational objectives.
7	03/22/1992	Established Management Plan for the McKenzie Wild and Scenic River;
8	03/22/1992	Establishes Management Plan for the North Fork of the Middle Fork of the Willamette River Wild and Scenic River.
9	02/20/1992	Changes official Forest Plan Map from manually drafted management areas to a digital version on Forest's Geographic Information System.
10	03/14/1992	Changes about 67 acres in Spring Butte area (Rigdon) from General Forest (MA-14a) to Special Habitat Area (MA-9d).
11	03/14/1992	Changes about 65 acres in Beaver Marsh area (Rigdon) from Special Interest Area (MA-5a) to Special Habitat Area (MA-9d).

## Forest Plan Amendments

Amendment	Implementation Date	Type of Change
12	04/04/1992	Adds Habitat Conservation Areas (HCAs) for northern spotted owl and adopts the standards and guidelines recommended by the interagency Scientific Committee.
13	07/29/1992	Makes initial allocation of about 640 acres of land acquired by land exchange not far from the South Pyramid area on the Sweet Home Ranger District to General Forest (MA-14a).
14	07/29/1992	Changes about 51 acres in the Long Ranch area, Sweet Home Ranger District, from Dispersed Recreation - lakeside Setting (MA-10f) to Special Habitat Area (MA-9d).
15	07/06/1992	Adds standard and guideline MA-1-20a to clarify that the visual quality objective for wilderness is Preservation, and deletes FW-059.
16	07/29/1992	Establishes new Management Area, Integrated Research Site (MA-3b) to support research on long-term site productivity and moves a pileated woodpecker site within the area. Also, re-labels the H.J. Andrews Experimental Forest as MA-3a.
17	02/17/1993	Extends deferment of timber harvest and road construction in the Opal Creek area for up to an additional two years.
18	02/17/1993	Clarifies direction in Forest-wide standard and guideline FW-018 to provide more site-specific and objectives.
19	06/02/1993	Relocates about 1,100 feet of Bornite Brook and 900 feet of Vanishing Creek, and by so doing interchanges the actual location of affected lands between MA-14a and MA-15. Upon reclamation of the bornite project's tailings impoundment, creates about 5 acres of wetlands converting that acreage from MA-14a to MA-15.
20	05/17/1993	Adds S&G to require an integrated management approach for weed management for the most effective control methods, based on site-specific conditions.
21	06/23/1993	Makes initial allocation of 123 acres acquired through land exchange on the Blue River RD, 59 acres allocated to MA-5A (Gold Hill SIA); 64 acres allocated to MA-11d near Blue River Reservoir.
22	11/24/1993	Allows temporary reduction in availability of elk cover in Mill Creek and Anderson Creek High Emphasis areas (McKenzie RD) to allow stand management practices which will accelerate the development of high quality cover.
23	01/05/1994	Establishes the Forest's Special Forest Products Management Plan, including implementing direction through several new Forest-wide S&Gs.

## Forest Plan Amendments

Amendment	Implementation Date	Type of Change
	05/20/1994	Establishes land allocations and S&Gs as described in the Record of Decision for Amendments to the Forest Service and Bureau of Land Management management plans.
24	09/29/1994	Changes 1/2-acre in the Westfir area from Scenic-Partial Retention (MA-11c) to Special Use-Permits (MA-13a).
25	05/26/1995	Modifies the S&Gs for riparian reserves, wildlife tree provisions, and fueling loadings in MA-3b and AMA Long-Term Ecosystem Productivity project. This was a nonsignificant amendment to the Forest Plan.
26	05/17/1995	Modifies the S&Gs for visual objectives, big-game management, and the retention of large woody material. This was a nonsignificant amendment to the Forest Plan.
27	06/22/1995	Designates approximately 110 acres as MA-9d, Special Wildlife Habitat, in the Heart Planning Area on the Oakridge RD.
28	11/29/1995	Designates the electronic site as a Special-Use-Permits area (MA-13a). Prior to this decision the site was located within Scenic-Modification Middleground (MA-11a). For specifics see Santiam Cellular Environmental Assessment and Decision Notice.
29	01/12/1996	Expand the current Special-Use-Permit area (MA-12b) from 732 acres to 802 acres. Master Plan provides for improvements to the alpine ski facility, as well as adding other year-round recreational opportunities. For specifics see the Hoodoo Master Plan FSEIS and ROD.
30	04/17/1996	Within the Browder Cat timber sale boundary, decreases riparian reserve widths to 50 feet for both sides on four intermittent streams within and adjacent to harvest units and establishes riparian reserves of 175 feet for both sides on two perennial non-fish bearing streams adjacent to a proposed unit.
31	05/15/1996	Established the Rigdon Point RNA.
32	09/04/1996	Decreases the interim Riparian Reserve widths 21 acres for Class IV streams and 5 acres for Class III within the Augusta Timber Sale Planning area located in South Fork McKenzie Tier 1 Key Watershed.
33	01/16/97	Allocates 13.4 acres to MA-6d, Upper McKenzie Wild and Scenic River; 0.25 acre to MA5a, Special Interest Area; and about 11 acres to MA-11C, Scenic Partial Retention Middleground.
34	01/23/1998	Changes approximately 1,900 acres of land from Scenic Modification/Middleground (MA 11a) to General Forest (MA 14a) and removes 275 acres of inventoried roadless area on the Middle Fork Ranger District.

## Forest Plan Amendments

Amendment	Implementation Date	Type of Change
35	5/17/1997	Temporarily reduced winter range cover for elk in a high elk emphasis area below the 0.5 Habitat Effectiveness rating required by S&G FW-149 in the Robinson-Scott project area.
36	07/08/1997	Establishes new S&Gs for four sensitive plant species; Gorman's aster, <i>Aster gormanii</i> ; Common adders tongue, <i>Ophioglossum pusillum</i> ; selected populations of tall bugbane, <i>Cimicifuga elata</i> ; and selected populations of <i>Umpqua swertia</i> , <i>Fraseran umpquaensis</i> .
37	05/19/1997	Assigns initial allocations for about 2,180 acres of acquired lands located on Detroit and Sweet Home Ranger Districts.
38	01/21/1998	Changes management emphasis to provide for a proposed action to build a replica fire lookout station museum on the Lowell Ranger District.
39	06/01/1998	Establishes two new communication sites on the Sweet Home Ranger District. The development involves less than 1/4 acre.
40	07/13/1998	Establishes the 2,877 acre Torrey-Charlton Research Natural Area (RNA). The RNA spans over both the Willamette and Deschutes National Forests.
41	08/24/1998	Establishes two new communication sites on the Detroit Ranger District. The development involves less than 1/4 acre.
42	08/30/1999	Allows the Forest to continue a program of noxious weed treatment based on the type of infection.
43	02/15/2000	Changes, in Christy Basin, approximately 1,060 acres of MA 14a (General Forest) to MA 9b (Pileated Woodpecker habitat). Also a slight modification of MA 10e (Dispersed recreation) with no net change in acreage.
44	12/21/2001	Established the Waldo Lake Management Plan which addressed management issues in and around the lake. This decision has since been rescinded.
45	06/16/2004	Thins 5.2mmbf on approximately 491 acres within management areas LSR and AMA. Three units are within Three Creek Old-Growth Grove requiring a non-significant Forest Plan amendment.

## Forest Plan Updates

Forest Plan Amendments (discussed above) change decisions made by the Forest Plan, consequently, they also require environmental analysis under the National Environmental Policy Act (NEPA). From time to time other changes to the Forest Plan are needed which are not intended to affect earlier decisions or Plan objectives. Examples of such Forest Plan Amendments (discussed above) change decisions made by the Forest Plan, consequently, they also require environmental analysis under the National Environmental Policy Act (NEPA). From time to time other changes to the Forest Plan are needed which are not intended to affect earlier decisions or Plan objectives. Examples of such changes include corrections; clarification of intent; changes to monitoring questions; and refinements of management area boundaries to match management direction with site-specific resource characteristics at the margin. We call these types of changes “Updates.” Since they do not change any Plan decision, they do not require NEPA analysis.

There have been eleven updates to the Forest Plan:

Update	Implementation Date	Type of Change
1	07/06/1993	Makes two minor management area boundary adjustments on the Oakridge Ranger District (RD).
2	10/18/1993	Clarifies the Forest-wide S&Gs for prescribed fire in nonwilderness.
3	10/18/1993	Updates and reprints the Forest’s Monitoring Tables from Chapter V of the Forest Plan. Eliminates duplication, improves clarity, and refines data, and analysis requirements to better address monitoring concerns.
4	10/17/1994	Special Forest Products (SFP) Table IV-32a shows a type of collection allowed by a management area. To clarify that the exclusion of commercial SFP collection applies only to the large, mapped Late-Successional Reserves (LSR) and not to all of the owl activity centers that are now 100-acres LSRs.
5	12/15/1995	Clarifies the role of natural fires in Wilderness. Insures direction for prescribed natural fire is consistent with Wilderness policy through adjustments to the Forest Management Goals, Desired Future Condition, Forest-wide S&Gs, Management Area prescriptions, and Monitoring Questions.
6	01/23/1997	Updates the Forest Plan Map of Record with changes to Swift Creek (MA 10f); corrections to 100 acre Late Successional Reserves (MA 16b), an AMA designation correction (MA 11f to MA 17), and a Hoodoo Master Plan boundary correction (MA 12b).
7	08/31/1998	Updates the Forest Plan Map of Record with refinements to the LSR222 boundary, establishment of MA 13B for the Middle Fork Ranger Station, the incorporation of Pileated Woodpecker and Marten areas, changes to 7 owl cores on the McKenzie RD and one on the Lowell Ranger District, the location of the already established Huckleberry Lookout (MA 13b) onto the Map of Record, the assignment of management allocations to newly acquired private land, refinements to the boundary of the McKenzie work center.



## Forest Plan Updates

Update	Implementation Date	Type of Change
8	04/03/2000	Updates the Forest Plan Map of Record with RNA boundary refinements, the creation of Ma 1 for Opal Creek Wilderness and MA 2C for Opal Creek Scenic Area; an update that finalizes the boundary of the North Fork of the Middle Fork Wild and Scenic River, small refinements of the Forestwide wilderness boundaries, an LMP layer adjustment to reflect private land changes, adjustments to the boundary of Hills Creek LSR to allow scenic enhancement activities, and the creation of a MA 6b for the Elkhorn Wild and Scenic River.
9	04/09/2001	Documents the change of Inventoried Roadless Area maps from paper copies to an electronic Geographic Information system layer in the Forest Planning records.
10	10/17/2002	Updates the Forest Plan Map of Record with a Guistina Land Exchange of 173 acres for 237 acres; correct Shadow Bay campground from 12a to a 12b; vertical integration of administrative boundaries; update with the Finberry Timber Sale, correct the Three Creek RNA boundary; change land allocation from 11c to 13a at Carmen Air Quality Monitoring Site; reflect the Drury Land Purchase of approximately 28 acres; add names of special features into the layer, change an allocation from 14a to 12a on Timber Butte Lookout; and finally add the boundaries of the seed orchards.
11	06/21/2006	Updates to the Forest Plan Map of Record. The updates included labeling errors to Opal Creek Wilderness and to Hills Creek Reservoir. Two other updates included refining the boundaries to 100 acre LSRs in the Blowout Thin EA and correcting a previous error in a Bald Eagle Management Area across from Hills Creek Reservoir. None of the updates resulting in significant change nor was a result of a change in direction. A final change to added several Bald Eagle Management Areas to the Map of Record was requested. No additional areas were added because no NEPA documentation supporting the areas was available.

R6-WILL-007-06

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